

## **REMARKS/ARGUMENTS**

Claim 8 has been amended to recite the base resin as described in the specification and dependent claims directed to certain embodiments have been added. Support for the claims appears in paragraphs 0016, 0018, and 0031 of the published application. New claims 16-20 are directed to compositions which contain an amount of polyphenylene ether (C). New claims 21-24 are directed to preferred embodiments of the compositions of claim 1. No new matter has been added.

### **Status of the Claims**

Claims 1, 3-5, 8, and 10-24 are pending and under consideration. Claims 2, 6, 7, and 9 were previously canceled. Claims 11-24 are added by this Amendment.

### **Statement of the Rejections**

Claims 1, 3-5, and 10 stand rejected under 35 U.S.C. §102(b) as being anticipated by Notorgiacomo "with Blount . . . as evidence". Notorgiacomo discloses linear alternating polymers of carbon monoxide and at least one ethylenically unsaturated hydrocarbon and a minor quantity of a thermally stable cyclic phosphonate ester and a tetrafluoroethylene resin. Antiblaze 1045 is disclosed as a cyclic phosphonate ester used in the compositions of the reference which can be masterbatched with polymers such as EVA and HIPS. Blount discloses cyclic phosphonate esters which are sold under the trade name Antiblaze 1045.

The Examiner has taken the position that the disclosure of the range of ratios of ester to polymer in the masterbatching (90:10 to 10:90) anticipates Applicants' claims. With regard to polyphenylene ether (C) in Applicants' claimed compositions which is not disclosed in Notorgiacomo, the Examiner has taken the position that "up to" includes zero.

Claims 1, 3-5, and 8-10 stand rejected under 35 U.S.C. §103(a) as unpatentable over Notorgiacomo "with Blount . . . as evidence". The Examiner cites the amount of cyclic phosphonate carbon monoxide polymer (*not* the masterbatching polymer) in col. 4, lines 64-68 and concludes "[I]t would have been obvious to . . . select the minimum amount of flame-retardant

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necessary to flameproof the composition and to add the conventional additives cited by the references”.

### **Applicants' Traversal**

Applicants traverse the rejections and respectfully request reconsideration in view of the following discussion.

**Claims 1, 3-5, and 10-24 are not anticipated by Notorgiacomo because the reference does not disclose all elements of the claims as stated in Applicants' claims.**

To Anticipate a Claim, the Reference Must Teach Every Element of the Claim

The standard for anticipation is one of strict identity. To anticipate a claim for a patent, a single prior source must contain all its essential elements. MPEP §2131 states the basic requirements for anticipation under 35 U.S.C. §102 citing relevant case law. Federal Circuit court decisions repeatedly emphasize that anticipation (lack of novelty) is established only if (1) all the elements of an invention, as stated in a patent claim, (2) are identically set forth, (3) in a single prior art reference. Federal Circuit decisions reject any standard of “substantial identity”.

As cited in the MPEP, “[A] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the . . . claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). “. . . exclusion of a claimed element from a prior art reference is enough to negate anticipation by that reference”. *Atlas Powder Co. v. E.I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1574, 224 USPQ 409, 411 (Fed. Cir. 1984).

Disclosure of a broad range of a genus of ratios of the ester to polymer in the masterbatched Antiblaze does not anticipate Applicants' claimed compositions. *In re Ornitz*, 376 F.2d 330, 336, 153 USPQ 453 (CCPA 1967) (“it is not uncommon that a ‘species’ may be patentable . . . notwithstanding a prior art ‘genus’ “). “The identical invention must be shown in as complete detail as is contained in the . . . claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d

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1913, 1920 (Fed. Cir. 1989). Therefore, the broad disclosure of ratios cited by the Examiner is not sufficiently detailed to support a rejection under 35 U.S.C. §102.

As recognized by the Examiner, the specific masterbatch compositions of Antiblaze in the examples of the reference are outside the scope of Applicants' claims so the compositions used in the examples do not anticipate Applicants' claimed compositions. Since prior claim 8 and canceled claim 9 were not included in the rejection, the Examiner recognizes that Applicants' claimed compositions containing 6 parts or 2 parts of the cyclic phosphonate ester are not anticipated by the reference.

New claim 16 and its dependent claims and claims 14 and 15 recite compositions which contain an amount of polyphenylene ether (C) in the claimed compositions. The use of polyphenylene ether is not disclosed by Notorgiacomo. Therefore, the claims are not anticipated by the reference.

**The Examiner has not established a prima facie case of obviousness of claims 1, 3-5, 8, and 10 over Notorgiacomo alone or taken with Blount "as evidence".**

Applicants submit that Notorgiacomo does not support a case of *prima facie* obviousness of either the rejected claims or the newly presented claims.

When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to:

- (A) The claimed invention must be considered as a whole;
- (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination;
- (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and
- (D) Reasonable expectation of success is the standard with which obviousness is determined.

*Hodosh v. Block Drug Co., Inc.*, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

MPEP §2143 states the basic requirements of a *prima facie* case of obviousness citing supporting case law:

1. There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one skilled in the art to modify the references or combine reference teachings. (see MPEP §2143.01)
2. There must be a reasonable expectation of success. (see MPEP §2143.02)
3. The prior art reference (or references when combined) must teach or suggest all of the claim limitations. (see MPEP §2143.03)

### **Differences Between the Prior Art and the Claimed Invention**

The factual inquiries for establishing a background for determining obviousness under 35 U.S.C. 103(a) are set forth in set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966) and include determining the scope and contents of the prior art and ascertaining the differences between the prior art and the claims.

Although Notorgiacomo disclose the use of Antiblaze masterbatched with EVA and HIPS polymers, the reference does not disclose the use of these polymers as base resins instead of the carbon monoxide polymers required by the reference. The specific masterbatched Antiblaze compositions disclosed in col. 8, Table 2 contain EVA or HIPS in amounts (relative to the Antiblaze) well below the range of amounts in Applicants' claims (0.5-2 parts ester to 70-99.5 parts base resin). The ratios of masterbatched ester to polymer in col. 8 are 70 to 30 and 75 to 25.

Furthermore, the tests shown in col. 9 and 10 show that the samples containing the masterbatched Antiblaze burned when compared with Antiblaze without materbatching.

Notorgiacomo does not disclose or suggest the inclusion of polyphenylene ether resin in the disclosed composition. New claims 16-20 and other dependent claims include an amount of polyphenylene ether (C) in the claimed compositions.

**There is no disclosure or motivation in Notorgiacomo of polyphenylene ether or its use in the compositions disclosed therein.**

Claims 16-20 and claims 14 and 15 recite compositions which contain an amount of polyphenylene ether (C) and preferred amounts of (C). Applicants submit that there is nothing in

Notorgiacomo which teaches or suggests Applicants' claimed compositions. Therefore, the reference does not support a *prima facie* case of obviousness of these claims.

**One skilled in the art would not be motivated to use masterbatched Antiblaze in the compositions of Notorgiacomo in view of the fact that the products of such compositions burned when compared to the use of Antiblaze alone.**

Applicants submit that, despite Notorgiacomo's broad disclosure relied upon by Examiner, one skilled in the art would not be motivated to use 1) the masterbatched Antiblaze or 2) decrease the amount of Antiblaze in the masterbatch in view of the results shown in Tables 3 and 4 of Notorgiacomo.

The examples in the reference teach away from using Antiblaze masterbatched with polymer in the compositions disclosed therein. The comparative examples show that the samples using Antiblaze with EVA or HIPS burned and had inferior physical properties compared to samples which did not use Antiblaze or used Antiblaze alone. The broad teaching of using masterbatched Antiblaze is contradicted by the results reported in the examples of the reference itself.

It is noted that the concentration of "2-50% by weight (col. 4. lines 64-68)" cited by the Examiner relates to the carbon monoxide polymer, not the EVA or HIPS polymers used in masterbatching the Antiblaze. In the examples, the ratio of Antiblaze to EVA is 70 to 30 and the ratio of Antiblaze to HIPS is 70 to 25 so the amount of polymer is well below the amount of base resin used in the present invention relative to the cyclic phosphonate and the amount of phosphonate is far above the amount used in the present invention. The reference teaches away from increasing the amount of polymer since the samples using Antiblaze with EVA or HIPS burned and had inferior physical properties compared to samples which did not use Antiblaze or used Antiblaze alone. Applicants submit that one skilled in the art would be motivated to eliminate the polymers such as EVA and HIPS in the Antiblaze used in the compositions disclosed by Notorgiacomo. Such compositions are outside the scope of Applicants' claims.

Applicants submit that the Examiner has not established a *prima facie* case of obviousness of these claims over Notorgiacomo alone or taken with Blount.

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**Notorgiacomo does not provide a sufficient basis for a reasonable expectation of success because the compositions using the masterbatched Antiblaze burned and had inferior physical properties.**

Applicants submit that, despite Notorgiacomo's broad disclosure relied upon by Examiner, the reference does not provide sufficient basis for a reasonable expectation of success to either use the masterbatched Antiblaze at all or decrease the amount of Antiblaze in the masterbatch in view of the results shown in Table 3 of Notorgiacomo.

As discussed previously, the examples in the reference teach away from using Antiblaze masterbatched with polymer in the compositions disclosed therein. The comparative examples show that the samples using Antiblaze with EVA or HIPS burned and had inferior physical properties compared to samples which did not use Antiblaze or used Antiblaze alone. Applicants submit that there is insufficient basis for any reasonable expectation of success since the broad teaching of using masterbatched Antiblaze is contradicted by the examples and results in the reference itself.

The dependent claims that stand rejected by the Examiner are directed to preferred embodiments of the invention. Applicants submit that the claims are allowable over Notorgiacomo for the reasons discussed previously.

Applicants submit that a review of the prior art of record as a whole shows that the claims in the present application meet the requirements for patentability. It is respectfully requested that the Examiner reconsider his rejections of the claims and allow claims 1, 3-5, 8, and 10-24.

Respectfully submitted,

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